Diploma Programme
Programme du diplôme
Programa del Diploma

Environmental systems and societies
Standard level
Paper 1

2 May 2025

Zone A afternoon | **Zone B** afternoon | **Zone C** afternoon

Candidate session number

1 hour

Instructions to candidates

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- Answer all questions. Refer to the resource booklet which accompanies this question paper.
- Answers must be written within the answer boxes provided.
- A calculator is required for this paper.
- The maximum mark for this examination paper is **[35 marks]**.

2225 – 6604

8 pages

Answer **all** questions. Answers must be written within the answer boxes provided.

1. (a) With reference to **Figure 1(c)**, identify **one** type of vegetation that is found on the North Island but not on the South Island. [1]

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(b) With reference to **Figures 1(b) and 1(c)**, identify a relationship between altitude and type of vegetation. [1]

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2. (a) Explain how tectonic plate movement has influenced evolution and biodiversity in New Zealand. [3]

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(b) (i) With reference to **Figure 2(c)**, identify the group of species which has the highest percentage in the *threatened* category. [1]

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(ii) Outline **one** reason the group of species identified in (b)(i) is the most threatened. [1]

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3. (a) State **one** factor which could have contributed to the Kākāpō being classified as critically endangered on the IUCN Red List. [1]

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(b) Evaluate the strategy used to conserve the Kākāpō. [3]

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4. Describe **one** possible impact of the change in forest cover shown in **Figure 4** on soils. [1]

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5. (a) Describe how the change in cattle numbers since 1990 shown in **Figure 5(d)**, may have impacted the water quality of nearby rivers. [1]

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(b) Outline **two** ways in which farming activity on the Canterbury Plains contributes to climate change. [2]

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(c) Outline **two** ways in which climate change may impact farming within the Canterbury Plains in the future. [2]

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(d) Suggest **two** ways in which agriculture in the Canterbury Plains could be adapted to deal with the impacts of climate change. [2]

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6. (a) With reference to **Figure 6**, calculate the doubling time (DT) of the population of New Zealand. [1]

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(b) Outline **two** factors which could change the expected doubling time (DT). [2]

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7. (a) State **one** way in which New Zealand might achieve net zero carbon emissions without changing its energy source. [1]

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(b) With reference to **Figure 7(b)**, calculate the expected percentage increase in electricity generation between 2020 and 2050. [1]

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(c) Identify the type of renewable energy which is expected to increase the most between 2020 and 2050 in **Figure 7(b)**. [1]

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(d) Outline a strategy to achieve the renewable energy projections for 2050 as indicated in **Figure 7(b)**. [1]

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8. With reference to **Figures 8(a)** and **8(b)**, compare and contrast the ecological footprint and biocapacity between New Zealand and the World. [3]

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9. With reference to the information in the resource booklet, to what extent can New Zealand be considered to be living sustainably? [6]